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VOCATIONAL AGRICULTURE IN PENNSYLVANIA

Bulletin 250

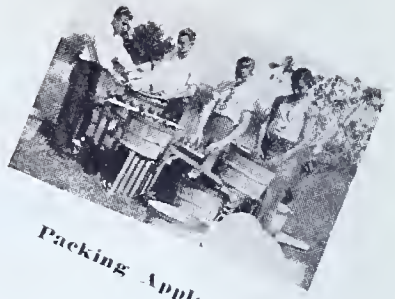
LESTER K. ADE
Superintendent of Public Instruction

Commonwealth of Pennsylvania
DEPARTMENT OF PUBLIC INSTRUCTION

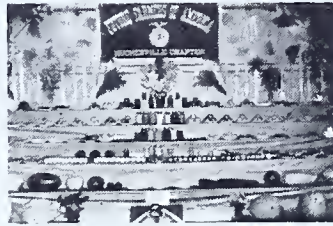
Harrisburg 1939



Community Fair



Packing Apples



**First Prize
Future Farmer Display**



**A Keen Job of Vegetable
Gardening**



Making a Garden Walk



A Winning Herd

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FOREWORD

The purpose of this bulletin is to describe the instruction in vocational agriculture and the condition under which this instruction is established in the secondary schools of Pennsylvania. It is prepared also with a view to interesting rural people of Pennsylvania in a kind of instruction that will better serve their communities.

The bulletin will assist school boards and principals in establishing and planning approved courses in vocational agriculture by setting up such information as may be of help in clarifying the program in the light of present-day needs in agriculture education. The growth of vocational agriculture in Pennsylvania has increased at such a rate that new duties and new problems have made it necessary to change policies from time to time to meet the changing conditions.

Approved courses in vocational agriculture are reimbursed from State and Federal funds under the Smith-Hughes and George-Deen Acts. The State and Federal Acts set forth certain conditions that must be met in order to qualify for reimbursement. The statement of these conditions has been embodied in the bulletin. It is the responsibility of the Department of Public Instruction to place in the hands of the school boards this information so that courses in vocational agriculture may be established and conducted in accordance with the State and Federal Acts.

The aim of vocational agriculture is to prepare rural boys for the vocation of farming and to enrich the secondary school curriculum in the interest of the rural boy. Vocational agriculture as taught in part-time and evening classes helps out-of-school youth and adult farmers.

The bulletin was prepared by H. C. Fetterolf, Chief, Agriculture Education, Department of Public Instruction, with the assistance of G. L. Reisner, J. S. Champion, and V. A. Martin under the direction of Paul L. Cressman, Director, Bureau of Instruction, and was edited by Eugene P. Bertin, Department Editor.

LESTER K. ADE

Superintendent of Public Instruction

January, 1939

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VOCATIONAL AGRICULTURE IN PENNSYLVANIA

I. INTRODUCTION

The primary aim of the instruction in vocational agriculture as offered in Pennsylvania secondary schools is to prepare present and prospective farmers for efficiency in farming. The aims of the program stated in more specific terms are as follows:

1. To produce and to market agriculture products efficiently.
2. To manage effectively the farm business.
3. To perform the ordinary farm mechanics activities.
4. To use scientific knowledge and procedure in farming occupations.
5. To cooperate intelligently in economic activities.
6. To exercise constructive leadership and to recognize and follow worthy leadership.
7. To participate in worthy civic and social activities.
8. To maintain a satisfactory farm home.
9. To grow vocationally.
10. To become established successfully in farming.

II. TYPES OF SCHOOLS

A. Departments

Departments of vocational agriculture are established in secondary schools where there is a sufficient number of farm boys desiring the work. The minimum number of boys required for starting or maintaining a department is twelve. Where the enrolment of a secondary school is small, this instruction may be obtained by joining with a similar district and sharing the time of the teacher of agriculture. Employing teachers jointly is encouraged and is the means whereby many poor districts can profit by this type of instruction. When districts unite to operate a joint secondary school department or employ a teacher jointly for two small secondary departments, each district receives a special reimbursement of \$250.00 in addition to the reimbursement on the salary of the agriculture teacher.

B. Day-Unit Classes

The county vocational education adviser and itinerant teacher of agriculture is responsible to the county superintendent of schools. His salary and traveling expenses are paid from State and Federal funds. The county provides the office and such supplies as may be

needed in his administrative and supervisory work. The districts in which the day-unit classes are organized are expected to provide the textbooks and supplies for the pupils of their respective classes.

The instruction given by the county adviser is on a unit basis of one ninety-minute period per week. The instruction is usually centered around the home project work which is required of all pupils enrolled.

Day-unit classes are essentially promotional classes to acquaint various communities with this particular type of preparation and to help develop full-time departments of agriculture within the county. The cost to local school districts for day-unit instruction does not exceed fifty dollars per year.

The number of day-unit classes in the county should not exceed six in any one year. In addition to teaching itinerant classes, the vocational education adviser is responsible for the planning, development, guidance, and supervision of the county program of vocational agriculture education.

C. Rural Community Vocational Schools

The course in vocational agriculture in a rural community vocational school is the same as the course offered in a department of vocational agriculture. In rural community vocational schools reimbursement up to eighty per cent of the individual teacher's salary is made on the salaries of all secondary school teachers on the faculty, whereas in secondary schools having vocational departments, vocational reimbursement is made on the salaries of vocational teachers only.

Rural community vocational schools are located in communities that serve a distinctly rural population. They are called vocational schools because they are designed to prepare rural boys and girls for the vocations of farming and homemaking. Enrolment in vocational courses in a rural community vocational school is required of all freshman and sophomore boys and girls; however, the vocational instruction is made elective for the third and fourth years. It is the compulsory feature of this type of school that has caused many districts to change their rural community vocational schools to four-year secondary schools with elective departments of agriculture and homemaking.

III. AGRICULTURE CURRICULUM

A. Cross Section Program

Farming is a complex combination of many agriculture skills and abilities in many phases of agriculture which are interrelated in the daily and seasonal activities of the farm. This being true, it is ob-



A Good Vegetable Project Pays Dividends



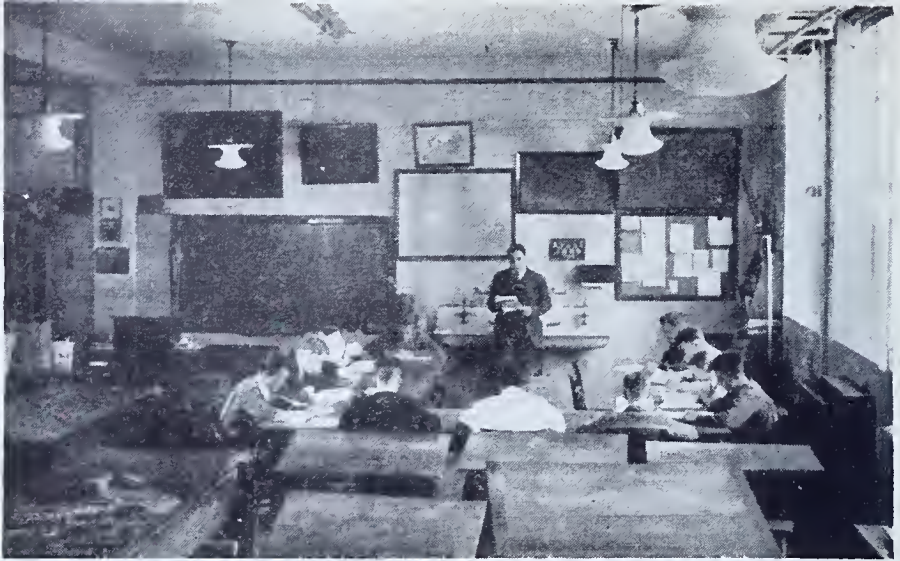
Farm Boys Gain Practical Preparation in School Greenhouse



Growing Plants in the School Hotbed for Home Projects



The School Grounds Were Landscaped by the Agriculture Boys



Schoolroom Duties



Boys Select Seed for Next Year's Crop



The Agriculture Class Learns to Select the Best Type of Sheep

vious that the instruction in vocational agriculture on the subject basis may not appear logical. The farmer does his daily work in units such as feeding stock, culling hens, treating seed for disease, picking and grading fruit, each of which may represent a separate agriculture subject. It may appear more logical, therefore, that the instruction in agriculture should be on the unit basis and should cover the various jobs of farming as they are carried out in practice.

An agriculture curriculum may be developed by the more experienced teachers for the local community by carrying out the following steps:

1. Make a detailed survey of the community to determine the farming enterprises, farm practices, and related farm activities.
2. Tabulate and analyze survey data to determine the major, minor, and contributory farm enterprises and farm practices.
3. Set up several plans for four-year project programs. Help each boy set up a four-year project program for himself.
4. Determine the units of instruction necessary to prepare the boys to carry out their project programs.
5. Divide the units of instruction into jobs and arrange in logical order by seasons and by years. The result is a four-year curriculum in vocational agriculture adapted to the needs of the boys, and to the agriculture of the community.

B. Subject Curriculum

Many teachers of agriculture because of large enrolments and lack of experience may not feel capable of developing the curriculum in vocational agriculture using the cross-section method. It is suggested that these teachers offer their instruction by means of the subject curriculum which follows:

FIRST YEAR

Vocational Subjects	90 Minutes Minimum Daily	Academic Subjects	Minimum Weekly
Poultry Husbandry	450 Minutes	English	200 Minutes
Vegetable and Ornamental Gardening	Minimum Weekly	Social Studies	200 Minutes
Farm Mechanics	600 Minutes	Health and Physical Education	120 Minutes
Project	Recommended Weekly	Mathematics, Related or General	200 Minutes

SECOND YEAR

Vocational Subjects	Credits	Academic Subjects	Credits
Farm Crops	1½ to 2	English	1
Dairying		Social Studies	1
Farm Mechanics	½ to 1	Health and Physical Education	.3
Project		Elect One	
	2 to 3	Science	1
		Mathematics	1

THIRD YEAR

Vocational Subjects	Credits	Academic Subjects	Credits
Animal Husbandry	1½ to 2	English	1
Fruit Production		Health and Physical Education	.3
Forestry		Elect Two	
Farm Mechanics			
Project	½ to 1	Social Studies*	1
	2 to 3	Science	1
		Mathematics	1

FOURTH YEAR

Vocational Subjects	Credits	Academic Subjects	Credits
Farm Management	1½ to 2	Health and Physical Education	.3
Farm Accounts and Marketing		Elect Three	
Rural Sociology		English (Recommended)	1
Rural Law		Science	1
Farm Mechanics	½ to 1	Social Studies*	1
Project		Mathematics	1

*Two units of social studies required for graduation.

The time devoted to instruction in the various subjects in agriculture may vary depending upon the relative importance of agriculture in the community. The time allotment for each subject should be developed through a survey made in the attendance area of the local department of agriculture.

C. Credits for Agriculture

The number of credits received per year in agriculture depends upon:

1. The length of time devoted weekly to the vocational instruction. If the minimum of ninety minutes of instruction is given daily, one and a half credits should be allowed for the work exclusive of the project.

No credits in academic or vocational subjects are given towards graduation in the ninth year. It is suggested that a year of mathematics relating to problems of the farm be offered during the ninth year. With this change in the curriculum, related science would be scheduled in the tenth grade and may be taught either by the supervisor of agriculture or the science teacher.

2. The successful completion of a satisfactory home project program. The Carnegie unit is the standard for determining the credit that should be given. If a pupil is conducting a long-time project program, an additional one-half credit may be given for each supplementary project meeting the State minimum project contest standards. Not more than one credit should be given in any one year for supplementary projects. Two consecutive school periods, total-



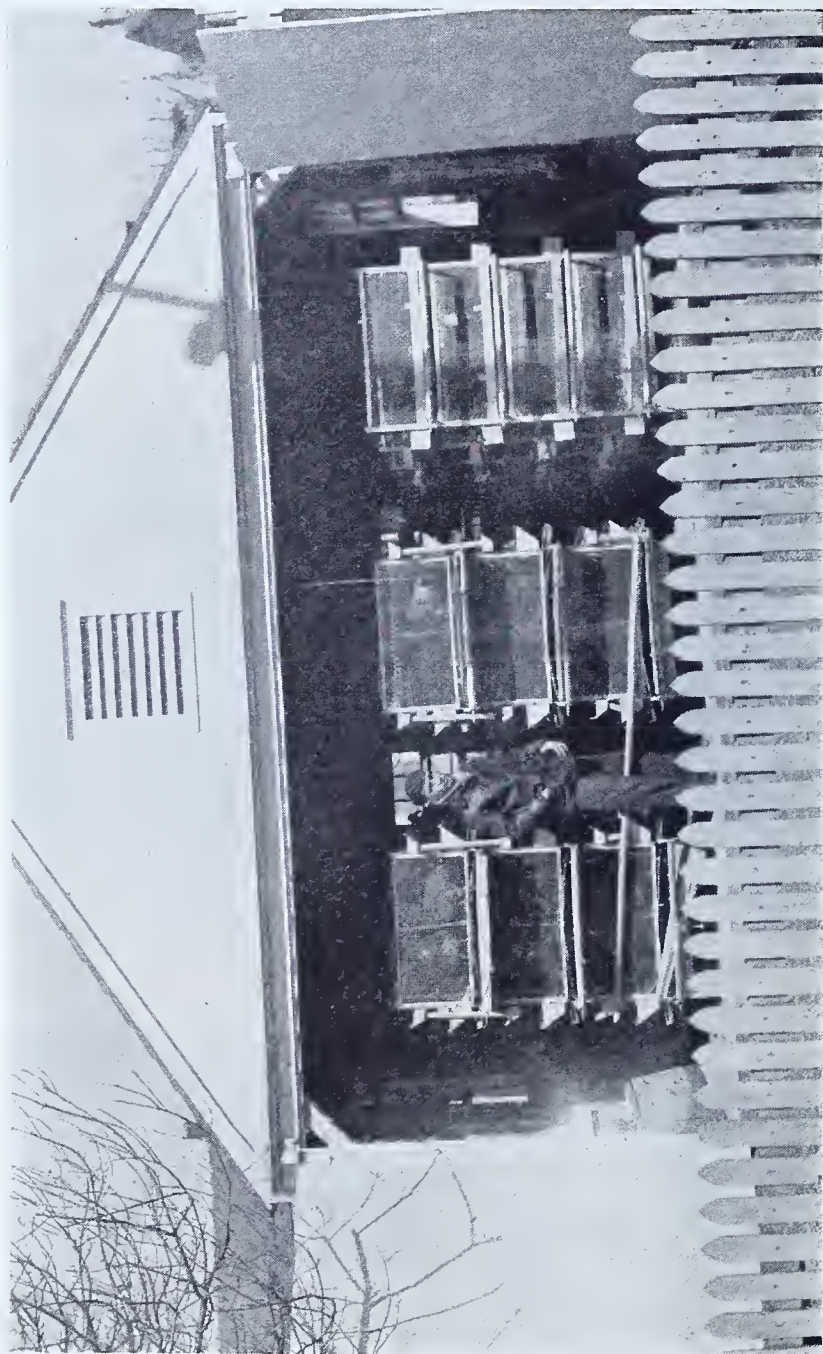
Getting Ready for the State Farm Show



Vocational Boys Learn to Select the Highest Producing Holsteins



"Home on the Range"



This Vocational Boy Has Turned Dad's Garage Into a Profitable Place for His Brother Batteries

ing ninety to one hundred and twenty minutes, should be devoted to vocational agriculture by each group. A double period provides more time for the practical work such as the field trips and shop.

D. Suggested Schedule

FIRST YEAR AGRICULTURE

First Half Year

Monday	Tuesday	Wednesday	Thursday	Friday
Poultry	*Shop	Poultry	Gardening	Poultry
Gardening	Shop	Poultry	Gardening	Project Study

Second Half Year

Poultry	*Shop	Gardening	Poultry	Gardening
Poultry	Shop	Gardening	Gardening	Project Study

SECOND YEAR AGRICULTURE

First Half Year

Dairying	*Shop	Farm Crops	Dairying	Dairying
Farm Crops	Shop	Farm Crops	Farm Crops	Project Study

Second Half Year

Dairying	*Shop	Dairying	Farm Crops	Farm Crops
Farm Crops	Shop	Dairying	Dairying	Project Study

THIRD YEAR AGRICULTURE

First Half Year

Animal Husbandry	Fruit Growing	*Shop	Animal Husbandry	Forestry
Animal Husbandry	Forestry	Shop	Fruit Growing	Project Study

Second Half Year

Fruit Growing	Animal Husbandry	*Shop	Animal Husbandry	Fruit Growing
Fruit Growing	Forestry	*Shop	Forestry	Project Study

FOURTH YEAR AGRICULTURE

First Half Year

Rural Sociology	Marketing	*Shop	Farm Management	Rural Law
Rural Sociology	Marketing	Shop	Farm Management	Project Study

Second Half Year

Rural Sociology	Marketing	*Shop	Farm Management	Rural Law
Rural Sociology	Marketing	Shop	Farm Management	Project Study

At least two consecutive periods should be provided each week for laboratory work or field trips in major courses.

IV. DESCRIPTION OF SUBJECTS

A. Poultry Husbandry

Poultry raising is one of Pennsylvania's major farm industries and has become one of the most highly specialized enterprises on the farm.

The subject of poultry is given in the first year of work in agriculture because of its general interest and importance to all boys, and because it is so well adapted to the home project work of the

*Not more than twenty per cent of the total time of the vocational program should be devoted to farm mechanics.

pupil. Few subjects offered in agriculture include so many practical problems that tie up with the activities of the home farm. Problems of breed selection, breeding, feeding, housing, culling, disease and parasite control, grading and marketing of eggs are all studied during a year's work in poultry. Field trips to successful poultry producers are encouraged for the purpose of studying modern management problems. No other project includes within the year the complete cycle of biological development.

There are four distinct kinds of poultry projects that are popular among farm boys. These projects, carried easily in the same year in the ordinary development of a long-time project program, are raising baby chicks, growing capons, keeping a flock of laying hens, and keeping records on the home flock.

Cooperative class enterprises are to be found throughout the State doing a profitable business for the agriculture department or the Chapter of Future Farmers of America. Examples of cooperative school activities related to the work in the poultry course are hatching eggs, raising baby chicks, managing a flock of laying hens, and growing capons. As a result of these enterprises much improvement has been brought about in the quality of birds raised on the home farm. In many instances cooperative school hatching and brooding have been responsible for the initial purchase of certified chicks of superior breeding.

B. Vegetable Gardening

The opportunities of the pupil enrolled in agriculture for carrying on vegetable enterprises are unlimited. Although Pennsylvania produces only a small part of the vegetables consumed within the State, its markets are famous for the quality of home-grown vegetables.

Vocational agriculture recognizes the importance of vegetable growing on the farm and offers a well-rounded course in gardening. The town boy who is interested in agriculture finds vegetable gardening adapted to his limited facilities for project work.

The development of the roadside market, growing crops for the canning industry, and the general demand for fresh vegetables in the diet have made this subject increasingly important in recent years.

The outstanding results in the teaching of vegetable gardening are probably the use of new and improved vegetable varieties and strains, raising of vegetable plants for the local communities, the placing on the market of fresh vegetables of better quality, and the cooperative purchase of vegetable seeds. Much of this work is carried on as a group project by the class in gardening.



This Vocational Boy Has Learned How to Control Insects and Disease on His Potatoes



Careful Planning, Fertilizing, and Care Result in a Profitable Crop

C. Ornamental Gardening

Ornamental and landscape gardening is given attention in the agriculture program to teach the importance of having an attractive farmstead.

School landscape projects, where boys do the actual planting, and home improvement projects provide real situations where boys can learn by doing.

In the limited time that can be assigned to this subject the pupil has an opportunity to learn how to make a good landscape plan for the home. He learns to identify the common shrubs and flowers and also learns the proper methods of planting, transplanting, pruning, and fertilizing.

Throughout the State there are many practical illustrations of excellent improvements that boys have accomplished in improving school grounds, and grounds of other public buildings. On their home farms they have graded and planted lawns, planted and pruned shrubs, made flower beds, remodeled and painted houses and other buildings, laid walks, and added conveniences to their farm homes, such as water systems and electric power.

D. Farm Crops

A study of farm crops is basic for teaching all other farm enterprises in the agriculture curriculum. Within the past decade vast programs on a nation-wide scale, such as soil conservation and improvement, soil erosion control, and crop control have added to the importance of this subject.

A sound knowledge of growing our important farm crops is necessary to carry on economically such enterprises as dairying, poultry and livestock raising. A practical knowledge of rotations and the use of legumes and fertilizers is essential today in successful farm management.

E. Dairying

Pennsylvania is one of the most important dairy states in the Union, admirably adapted because of its splendid natural resources and excellent markets.

Vocational agriculture provides a fundamental preparation for our dairy program by giving instruction in breeds, feeding, breeding programs, and herd management. The project program in dairying often begins with ownership of a pure bred calf and continues through the boy's four years of agriculture. During this period a boy may de-



Pride and Quality

acquaint the prospective farmer with the problems of crop and live-stock production, marketing, maintaining soil fertility, and cost accounting. Farm management teaches sound methods of farming in a given locality from which may be derived a satisfactory income and a wholesome life on the farm.

J. Farm Accounts

Farm accounting is taught in connection with farm management and through project record keeping.

Keeping accurate farm accounts is no less important than any other farm activity. The system of farm accounting need not be elaborate, but it should be complete enough for an effective analysis of the costs of different farm enterprises. The single enterprise accounts of the home project provides the preparation for the more complicated accounts that follow in operating a farm.

K. Rural Law

In rural law a study is made of Pennsylvania laws relating to foods and markets, the grading and marketing of products, shipping of livestock, etc. In addition a study is made of contracts, leases, trespass, and laws governing real and personal property as they pertain particularly to the farm.

When possible it is recommended that members of the legal profession be invited to appear before the class and explain certain phases of farm law that the boys should know.

L. Rural Sociology

President Theodore Roosevelt in his letter of introduction to the "Report of the Commission on Country Life" stated that well-known fact that there are three aims in farming: "better farm practice, better farm business, and better farm living." Rural sociology is a study of how to obtain a better farm living.

Some of the problems studied in rural sociology are those arising out of the farm tenancy, decreasing soil productivity, farm credit, rural roads and transportation, and rural institutions such as school, church, and farm organizations.

Rural sociology should be taught not essentially as a textbook subject, but as a series of laboratory problems, using the local community as the ground work for the study.

A long-time planning program for educational, economic, and recreational opportunities for the community should be studied and developed. This makes a splendid program for the local chapter of Future Farmers of America.

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M. Farm Mechanics

The primary purpose of the farm mechanics course is "to prepare boys to do the ordinary construction and repair work that needs to be done on the average farm with the tools the average farmer may be reasonably expected to own."

The course in farm mechanics as taught in Pennsylvania schools aims to:

1. Give practice in the common tool operations with special emphasis on those which the boy will use on the farm.
2. Do practical jobs that, when completed, can be used on the home farms of the boys.
3. Correlate shop exercises with the interests of the farm and home and especially with the specific projects selected by each boy enrolled in vocational agriculture.
4. Encourage a farm shop on every farm equipped with the necessary tools to do farm repair and construction work.
5. Develop standards of workmanship appropriate to the instruction offered, which will be a credit to any farm.

V. FIELD TRIPS

The farm is the best laboratory for successful teaching of agriculture. Field trips are essential to agriculture instruction as they make it possible for the instructor to bring the boys in direct contact with actual conditions on the farm, and to study the results of good methods of management in the local community.

Field trips to the farms of the successful farmers in the community should help to arouse desires in the boys for better production standards on their projects, and also on other enterprises on their home farms.

The field trip should be conducted at the time that classroom instruction is being given on the subject in question. In the seasonal sequence of teaching, this may necessitate more field trips in the fall and spring than at other times of the year. Weather conditions are more favorable for the out-door instruction during these seasons. Transportation for this kind of practical instruction may be provided or paid for by the school board under a new law passed by the 1937 Legislature.

VI. ROOMS

The amount of space necessary for the operation of a department of vocational agriculture varies with the enrolment. It may consist of two large rooms, one a combination laboratory and classroom, and the other a farm shop, or a very complete and fully equipped



A Future Ton Litter in the Making



This Boy Can Now "Cash In" on His Project



Certified Seed Potatoes Grown and Prepared for Storage as a Group Project

department including a combination classroom, laboratory, and farm shop. The size of the room depends upon the number of boys enrolled.

Many of the schools in this State construct a combination classroom and farm shop which satisfies the requirements for the work when enrolments are small. In preparing any room for purposes of agriculture instruction, there should be provided adequate storage space for laboratory apparatus, and teaching materials for class work. The farm shop should be constructed with a door of sufficient size to admit farm machinery. A space in one corner of the shop should be arranged for instruction in forging. It is recommended that the laboratory and shop floor be made of wood except the part devoted to the forge work and repair of heavy farm machinery which should be of concrete. Essential features of the building or room should meet State school building standards.

VII. EQUIPMENT

A certain amount of equipment is essential to the teaching of the many phases of science involved in agriculture. Agriculture supplies are also necessary. The type of equipment for laboratory depends upon the crops grown and animals raised in the community. Twenty years ago a dairy laboratory equipped for teaching butter-making on the farm seemed essential; today, however, few communities need this type of equipment. Thus the equipment will vary with the changes that come about in agriculture.

The equipment necessary for operating a department of vocational agriculture will vary in cost from \$400 to \$1,000 or \$1,500, depending largely upon the size of the department, the way the material is purchased, and the types and quality of materials. The general use of electricity on Pennsylvania farms has made an increased demand for power equipment in the farm shop.

The equipment of a well-appointed recitation and laboratory room includes tables and chairs rather than seats and desks. Tables from six feet to eight feet in length and twenty-four inches wide are recommended. These will seat three or four boys on one side. Straight chairs are preferable.

Shelf room equal to at least five sections of a sectional book case should be provided for the reference books and bulletin files. A filing cabinet for permanent records and other materials, a magazine rack for farm magazines, and a blackboard of at least two sections should be provided.

Unless an adjacent store room is available, a case or cabinet of sufficient size to contain all laboratory and demonstration material

should be provided. Such a case or cabinet should be equal in capacity to a case seven feet high, twelve feet long, and two feet deep.

A blue print of a recommended agriculture laboratory and farm shop may be secured from the Division of Agriculture Education, of the Department of Public Instruction.

VIII. THE HOME PROJECT

Outstanding in the program of agriculture education is the home project. Although it is a required part of the agriculture program and must be completed to receive credit for other agriculture work, the project offers an excellent opportunity to put into practice those improved methods in production and marketing which make successful farmers.

The project is a productive farm enterprise undertaken by the pupil on the home farm under the supervision of the teacher of agriculture, and with the consent and cooperation of the parents. The project should be of a size sufficient to command the interest and respect of the boy, and it should be continued through the ordinary cycle of the enterprise. It should require managerial ability and include the use of improved farm practices.

To meet the Federal requirements, the project must be of six months duration. However, animal projects should be carried on through a twelve-month cycle and plant production projects carried on from sowing to marketing of the products. Small fruits should be carried along as a supplementary project the first year.

Boys enrolled in agriculture in Pennsylvania are urged to plan a long-time program, increasing their projects in number as well as in size each year. By so doing the boy has a good start in the farm business by the completion of his four-year course.

When a boy carries the same project two years or longer it is called a continuation project. The supplementary project is one carried on the same year in addition to the continuation project. For example, an animal project such as swine continued two or more years, is a continuation project. Corn or rape raised for the hogs might constitute a supplementary project.

The farm boy in undertaking a project is confronted with the actual problem of record keeping. An official project book includes all the essential records such as labor, expenses, receipts, inventories, and a financial summary. In addition, the record book includes space for a carefully prepared plan of the project, a diary of important activities and events, a story to be written at the end of the project, and an analysis of factors determining the efficiency of the boy's management.



Vocational Boys Planting Pennsylvania's Future Forest



Agriculture Boys Learning Modern Spraying Methods



Pruning the Young Orchard



Modern Methods Produce High Quality Apples



Students and Parents Take a Day to Visit Projects



**Cooperative Buying and Distribution
of Seed by an F. F. A. Chapter**

The State project contest held each year brings into competition projects from every school of the State. The winners of the State project contest are announced and awarded medals and buttons at the time of the State Farm Show.

A. Minimum Standards

Following are minimum standards for the State project contest. The standards for the project contest given below have become accepted as the minimum standards for acceptable projects in many schools.

Project	Minimum Scope
Bees	5 colonies
Corn	2 acres
Dairy Calves	1 pure bred or two grade calves
Dairy Cows	1 cow (full ownership)
Dairy Records	records on 5 cows (home bred)
Garden (5 or more vegetables)	3000 square feet
Home Improvement	no scope
Potatoes	1 acre
Poultry	300 baby chicks or 150 pullets
Poultry	100 hens
Poultry	flock record—100 hens (Oct. 1-Sept. 30)
Poultry (ducks, geese, turkeys, etc.)	50 capons, turkeys, geese, 100 ducks, 150 broilers
Sheep	5 ewes
Small Fruit	3000 square feet
Swine	4 shoats or 1 sow and litter
Truck	10,000 square feet

Activities not included in the above list may also be carried as projects. Examples of such activities are raising baby beef, fruit growing, and growing small grains. The minimum size setup for baby beef is fattening one steer; for fruit growing, the minimum standard size is management of twenty-five trees; and in small grains the minimum standard is five acres.

Since establishing these minimum standards the projects have had a tendency to increase in both size and quality. Boys have found the project contest a stimulus for better record keeping, full ownership, and more improved practices.

B. Group Project

The group class project is usually carried on for the purpose of raising funds for those in the local Future Farmer Chapter. The money raised by this group effort may be used in conducting educa-

tional or travel tours or for participation at Future Farmer Week, held at the Pennsylvania State College, or the State Farm Show, held at Harrisburg.

The group project may be conducted during the school year or the summer months or may be continued throughout the year. Good group projects are the operation of a hatchery, the management of an orchard or the growing of truck crops on a large scale for market or canning. Profits of several hundred dollars annually have been made from these group projects. The group project in no way takes the place of the individual home project of the boys.

C. Long-Time Project Program

The boys enrolled in agriculture should plan a program of project activities in his first year of work which will grow in size and need for managerial ability each succeeding year. Starting out in the first year with one project, the boy may increase this number until by his fourth year in school, he is carrying on a program involving four to six different enterprises on the farm. The long-time project program should include the addition of at least one production project each year. Examples of production projects are poultry raising, potato growing, and the like. These production projects should increase yearly in size and should aim to include the use of all the improved farm practices recommended for the enterprises.

The pupil should also plan to carry out improvement projects such as landscaping the farm home and improving pastures or reforestation. These projects may also be known as supplementary projects. Records should be kept on this type of project just the same as on production projects.

In preparing boys for farming it is important that they perform as many different managerial and operative jobs as possible in a number of farm enterprises. In order to increase this practice there has been set up a supplementary farm practice program wherein the pupil records practices he carries out on the farm aside from those involved in his regular project work.

The long-time project program is an essential part of the pupil's agriculture instruction in secondary school. If the boy is to prepare himself for farming, he should launch out in a long-time project program covering such enterprises as will give him the broadest experience for his future work.

Along with the advantage of experience to be gained is the advantage of income. As a boy's project program expands from year to year it is possible for him to develop a herd of dairy cows, a flock of laying hens, or crop-growing enterprises all of which he can use



Warren County's First Load of Pennsylvania Cooperative Potatoes



Beautifying the Home Grounds



An F. F. A. Leader Burns His Own Lumber



They Rebuild and Repair Farm Machines



Practical Farm Woodwork

as a foundation in actual farming. In addition to his ownership of livestock and equipment, the boy usually realizes a profit from his project each year.

The long-time project listed below is typical of such programs carried on in this State. It may be modified to fit the interests and facilities of the pupils.

First Year	Second Year	Third Year	Fourth Year
100 chicks	325 chicks	300 chicks	300 chicks
1/10 A. vegetables	40 hens	150 hens	200 hens
	1 A. potatoes	1 A. potatoes	2 A. corn
	homeimprovement	homeimprovement	homeimprovement
		½ A. strawberries	1 A. strawberries

IX. PART-TIME AND EVENING CLASSES

With the tremendous growth of vocational agriculture in Pennsylvania among the boys of secondary school age, there has come the additional responsibility of continuing the preparing of boys who have graduated from secondary school and are on farms as laborers, renters, managers, and owners.

Along with this group of secondary school graduates the teacher of agriculture becomes responsible for another group of farm boys who left school either in the grades or after completion of a year or more of secondary school work. This particular group of boys who are employed on farms or are working in rural communities, needs specific preparation in agriculture, and in addition, further education in English and mathematics, together with a program to develop a broader background.

Still a third group consists of those persons already established in farming who wish help in specific enterprises to improve their productive methods.

The program of the teacher of agriculture should be arranged so that more of his efforts may be used in developing this part-time and evening-class program. In centers where the teacher of agriculture may have idle periods during the day it is possible to have these out-of-school groups meet during those idle periods. The general plan, however, is to have most of this type of instruction held in the evening.

The minimum number of meetings for a part-time or evening class is ten. As many more may be scheduled as may be requested by the group. The average time for each meeting varies from ninety minutes to two and one-half hours. Usually a part of the meeting is devoted to recreation, depending on the desires of the group.

Most of the adult classes in Pennsylvania are held in the department of agriculture in the local secondary school building. Where members of the group live a distance from the school, it may be a

good plan to hold the class in some other place, such as a rural school building or Grange hall, within easy traveling distance of the members.

In Pennsylvania, many different types of instruction are being offered in these short courses with accompanying supervised practice programs arising out of the class discussions. Supervised practice usually centers around improved practices.

More and more it is felt that schools should be maintained to serve the educational needs of the entire community. Part-time and evening classes in agriculture must be considered an integral part of the public educational program if the school is to serve its best purpose. The whole-hearted approval and support of adult classes in agriculture by the local board of school directors and administrators is essential. Special compensation should be provided by the school board for this instruction. The reimbursement to the district on this instruction is greater than for instruction in all-day classes.

X. COMMUNITY ACTIVITIES AROUND THE VOCATIONAL SCHOOL

The department of agriculture is the center around which develop a number of enriching community activities. The teacher of agriculture is obligated to a wholesome participation in the community life in the service area of his department.

This participation may take place in cooperation with the Grange and other farm organizations. Scores of activities might be mentioned, but probably the outstanding one is the community fair. To the community fair clings the atmosphere of the fair of former days with its displays of canned goods, vegetables, fruits and livestock, but without the demoralizing influence of the midway. Community fairs are usually a homecoming event and are permeated by the old-fashioned "harvest festival" spirit. Home project exhibits of the boys and girls, demonstrations, and other activities developed by good leadership in the school, play a major role in interesting the thousands of visitors to the fairs.

XI. FUTURE FARMERS OF AMERICA

The Future Farmers of America is the national organization of farm boys enrolled in vocational agriculture. In 1938 Pennsylvania had 235 active Chapters, and a membership of 4,200. A local Chapter has been organized in almost every department of agriculture.

The purposes of the Future Farmer organization are: to promote vocational agriculture in the rural communities of Pennsylvania; create and nurture a love for country life; create new and abiding



**Teaching Orderly Habits
in the Farm Shop**



Sharp Tools Are Essential to Good Workmanship



Harness Repair is Generally Popular

interests in farming; provide recreation and educational entertainment for students of agriculture; promote thrift; afford a medium for cooperative marketing and buying; establish the confidence of the farm boy in himself and his work; promote scholarship and rural leadership; and foster an appreciative attitude towards cooperation through participation in its activities.

There are four degrees in the Future Farmers of America; namely, Green Hand, Future Farmer, Keystone Farmer, and American Farmer. Each degree has specific qualifications based upon attainment in vocational agriculture and leadership which must be met for advancement in degrees. Each year the two outstanding events are Future Farmers Week at the Pennsylvania State College, and the State Farm Show at Harrisburg. Included in these are many educational contests such as judging of horses, sheep, swine, dairy and beef cattle, a state-wide public speaking contest, a state demonstration contest, poultry, corn, potatoes, and a state-wide Future Farmer convention. The winners among these Future Farmers also participate in nation-wide public speaking and judging contests. Hundreds bring their best project products to the Farm Show to be entered in the competitive classes. All contests are used as a part of the regular instruction in agriculture.

The Future Farm Band is an organization of vocational boys from all parts of the State. This Band has been designated the official Band for the State Farm Show for the past three years with an increase in membership to 250. The F.F.A. Band for 1938 was made up of 101 boys from eighty-nine schools located in thirty-nine counties.

The motto of the Future Farmers of America is:

"Learning to do
Doing to learn
Earning to live
Living to serve."

XII. GROWING RESPONSIBILITIES OF THE VOCATIONAL TEACHER

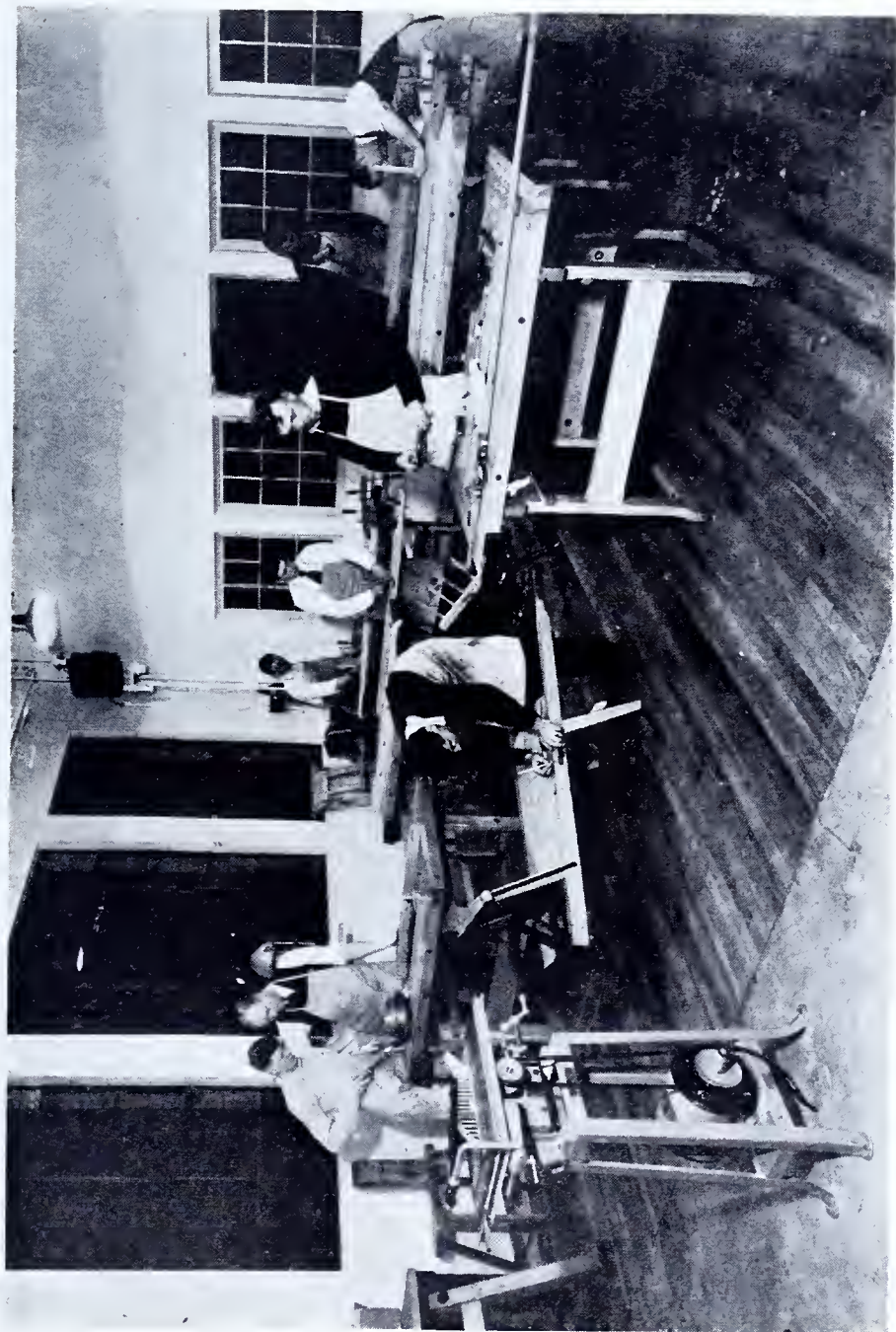
Previously mentioned in this bulletin is the increasing demand for classes for boys out of school and adults. The organization of these classes is largely the responsibility of the local teacher. In his efforts, however, he should have the assistance of his local school board, the principal, graduate members of his department, and the leading Future Farmers of America, as well as local organizations such as P.-T. A. and the Grange.

Conservation of wild life and forestry is an activity that should have active support in every department of agriculture. This activity might be made a part of the program of the local F.F.A. Chapter.

Teachers of agriculture have played a cooperative role with the agencies in charge of forestry, fish, and game. Not only have they cooperated with these agencies in many undertakings but they have used the educational materials offered by them to further their programs. Somewhere in the agriculture curriculum or in the Chapter activities of the Future Farmer organization there should be a place for the study of this increasingly important subject. Somewhere in the public schools there should be an opportunity for a limited number of boys to receive preparation for careers in the field of game, fish, and forest conservation. Group study in reforestation, game rearing or fish propagation offers an excellent method for making our secondary school youth conservation-minded.

Pennsylvania is not seriously handicapped by soil erosion as compared to the South and West. Nevertheless it is a problem which presents a challenge to each teacher of agriculture, for in soil erosion control are embodied the scientific principles of conserving the fertility of farm land for posterity, developing better cropping systems, and eliminating waste land, as such, by placing thereon a growing forest crop.

Many teachers of agriculture are helping their pupils in cooperative buying and selling. Although this is a problem which must be dealt with carefully in any community, the teacher should develop the philosophy of cooperative effort which is studied and developed with his group of Future Farmers.



The Part-time Class Makes the Farm Shop Do Double Duty



A Part-time Student Stops the Leaks



Part-time Students Take Advantage of the School Forge



Progressive Farmers Enroll for Evening Instruction



Future Farmers' Convention at Pennsylvania State College



They Dine Their Dads



There is Harmony Among the Future Farmers